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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,560	04/12/2004	Timothy R. McJunkin	B-058	3792

7590 03/14/2006  
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EXAMINER

SHAW, CLIFFORD C

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/828,560	<b>Applicant(s)</b> MCJUNKIN ET AL.	
	<b>Examiner</b> Clifford C. Shaw	<b>Art Unit</b> 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-92 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-22, 26-39, 42-45, 49-55, 58, 61-64, 68-80, 83-87, and 90-92 is/are rejected.
- 7) ☒ Claim(s) 4,5,23-25,40,41,46-48,56,57,59,60,65-67,81,82,88 and 89 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>0412</u> . | 6) <input type="checkbox"/> Other: ____.  |

**Detailed Action**

1.) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2.) Claims 1-3, 6-9, 11-16, 19, 20, 26-31, 34-39, 42, 43, 49-52, 74, 76-80, 83-84, and 90-92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krenzer et al. (4,298,785).

Figure 1 and the discussion thereof in the patent to Krenzer et al. (4,298,785) discloses a welding apparatus and method using ultrasonic sensing, including: an ultrasonic assembly at 1; a welder at 15; and a controller associated with element 10. The claims differ from Krenzer et al.

(4,298,785) in specifying: that the “ultrasonic assembly is borne by the moveable welder”; and in calling in certain dependent claims for the ultrasonic assembly to include two assemblies. These differences do not patentably distinguish over the prior art. It is considered obvious that the ultrasonic assembly 1 in Krenzer et al. (4,298,785) is in some sense “borne” by the welder because figure 1 shows a connection between welding head 15, element 2 and ultrasonic probe 1. It is considered obvious that the ultrasonic transceiver in Krenzer et al. (4,298,785) be constructed in any conventional manner, including having separate receiver and transmitter portions, thereby satisfying the claim language calling for two assemblies.

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3.) Claims 1-3, 8, 9, 11-13, 16, 19, 20, 26-31, 53-55, 58, 61, 62, 68-77, 80, 83, 84, and 90-92 are rejected under 35 U.S.C. 103(a) as being unpatentable over the German document no. DE1905302A. The English abstract and figure 2 in the German document no. DE1905302A disclose a welding apparatus with a moveable welder and an ultrasonic assembly that generates a signal transmitted through the workpiece toward the weld seam to control the position of the weld head relative to the seam. The claims differ from the German document no. DE1905302A in specifying: that the ultrasonic signal is directed toward a partially completed weld; and in specifying that the ultrasonic assembly includes two assemblies. These differences do not patentably distinguish over the prior art. In the German document no. DE1905302A, the ultrasonic signal is directed in the general direction of the welding operation, and it is considered obvious that at least some of this signal impinges on the weld itself, due to the nature of ultrasound propagation, thereby satisfying the limitations directed to directing the signal to the weld. It is considered obvious that the ultrasonic transceiver in the German document no. DE1905302A be constructed in any conventional manner, including having separate receiver and transmitter portions, thereby satisfying the claim language calling for two assemblies.

4.) Claims 10, 21, 22, 63, 64, 85-87 are rejected under 35 U.S.C. 103(a) as being unpatentable over the German document no. DE1905302A as applied to claims 1-3, 8, 9, 11-13, 16, 19, 20, 26-31, 53-55, 58, 61, 62, 68-77, 80, 83, 84, and 90-92 above, and further in view of the German document no. DE3543681A1. The only aspect of the claims to which the rejection above does not apply is the provision for ultrasonic assemblies on opposite sides of the weld. This difference does not patentably distinguish over the prior art. At the time applicant's

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invention was made, it would have been obvious to have positioned the ultrasonic sensors taught by the German document no. DE1905302A in any conventional fashion. In particular, it would have been obvious to have positioned these sensors on opposite sides of the weld as claimed, the motivation being the teachings of the German document no. DE3543681A1 that such an arrangement is advantageous in an ultrasonically controlled welding torch positioning system (see the English abstract and figure 1 in the German document no. DE3543681A1).

5.) Claims 32-36, 39, 42, 43, and 49-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over the German document no. DE1905302A as applied to claims 1-3, 8, 9, 11-13, 16, 19, 20, 26-31, 53-55, 58, 61, 62, 68-77, 80, 83, 84, and 90-92 above, and further in view of Stevens et al. (6,155,117, cited by applicant). The only aspect of the claims to which the rejection above does not apply are the provisions for surface and shear waves. These differences do not patentably distinguish over the prior art. At the time applicant's invention was made, it would have been obvious to have used surface and shear waves as claimed, the motivation being the teachings of Stevens et al. (6,155,117) that such are advantageous for ultrasonic sensing in a welding environment (see the abstract of Stevens et al. (6,155,117)).

6.) Claims 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over the German document no. DE1905302A taken with Stevens et al. (6,155,117) as applied to claims 32-36, 39, 42, 43, and 49-52 above, and further in view of the German document no. DE3543681A1. The only aspect of the claims to which the rejection above does not apply is the provision for ultrasonic assemblies on opposite sides of the weld. This difference does not

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patentably distinguish over the prior art. At the time applicant's invention was made, it would have been obvious to have positioned the ultrasonic sensors taught by the German document no. DE1905302A in any conventional fashion. In particular, it would have been obvious to have positioned these sensors on opposite sides of the weld as claimed, the motivation being the teachings of the German document no. DE3543681A1 that such an arrangement is advantageous in an ultrasonically controlled welding torch positioning system (see the English abstract and figure 1 in the German document no. DE3543681A1).

7.) Claims 4, 5, 23-25, 40, 41, 46-48, 56, 57, 59, 60, 65-67, 81, 82, 88, and 89 are objected to for depending from rejected claims, but would be given favorable consideration if recast in independent form to include all of the limitations of the parent claims. None of the prior art of record teaches or suggests the limitations directed to "average time" as set forth in the claims. None of the prior art of record teaches or suggests the limitations in claims 56 and 57 directed to a width dimension determination combined with the other claim features, especially the ultrasonic signal reflecting off a bottom surface as set forth in parent claim 53.

8.) The patent to Johnson et al. (6,484,584) and the Japanese document no. JP56-19982A are cited to show prior art ultrasonic sensors in a welding environment.

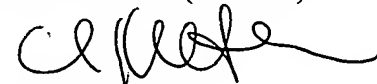
Any inquiry concerning this communication should be directed to Clifford C Shaw at telephone number 571-272-1182. The examiner can normally be reached on Monday through

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Friday of the first week of the pay period and on Tuesday through Friday of the second week of the pay period.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas G. Dunn, can be reached at 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Clifford C Shaw  
Primary Examiner  
Art Unit 1725

March 9, 2006